

**REMARKS**

Claims 1-10, 12-15, 17-29 and 31 are pending. Claims 2-10 and 29 have been withdrawn by the Examiner as a result of an Election of Species Requirement. Applicant submits that the independent claims from which the withdrawn claims depend remain generic to the non-elected species, and therefore claims 2-10 and 29 should be re-joined and allowed when the independent claims are allowed. By this Amendment, independent claims 1 and 15 are amended to even more clearly distinguish over the applied references, and claims 17 and 29 are amended to correct informalities therein. Support for the amendments to claims 1 and 15 can be found in the original specification at, for example, page 13, line 15 - page 14, line 2, page 15, line 15 - page 18, line 13 and in Figs. 2 and 4A. Thus, no new matter is added by the above amendments.

Applicant notes with appreciation the allowance of claims 20-28 and 31. Applicant submits that all pending claims are in condition for allowance as detailed below.

Claims 1, 12, 14, 15, 17 and 19 stand rejected under 35 U.S.C. §103(a) over Tanaka (U.S. Patent No. 6,982,751) in view of Yamada (U.S. Patent No. 6,914,633), further in view of Morris et al. (U.S. Patent No. 6,665,010). The rejection is respectfully traversed.

Applicant respectfully submits that the applied references would not have rendered obvious the combinations of features recited in independent claims 1 and 15, including a plurality of photosensors arranged in a matrix, the matrix having pixel blocks of photosensors, each pixel block constituted by two or more adjacently disposed photosensors in an array direction of the matrix, a color filter disposed such that the photosensors in each pixel block have a same color, and a readout section that selectively has a low-resolution transport mode that adds up the photo signals of the photosensors within each of the pixel blocks.

In Tanaka, the color filter is arranged such that adjacent photosensors are for different colors. See, for example, Figs. 5, 8, 14, 17, 20, 24 and 27 of Tanaka. Tanaka provides such an arrangement to "promote color separation" (see col. 8, line 65 - col. 9, line 4, for example). Tanaka discloses a pixel addition mode in which the signals of adjacent pixels having different colors are added together. See Fig. 5 and col. 9, lines 49-59. Tanaka also discloses a line addition mode in which the signals of non-adjacent pixels having the same color are added together. See Fig. 8 and col. 10, line 65 - col. 11, line 65 (especially col. 11, lines 53-65) of Tanaka. Tanaka does not disclose the claimed low-resolution transport mode that adds up the photo signals of the photosensors within each of the pixel blocks, wherein the pixel blocks are constituted by two or more photosensors adjacently disposed in an array direction and receiving light filtered to have the same color.

The Office Action relies upon Yamada for its teaching of shifting adjacent columns of photosensors. However, modifying Tanaka to shift adjacent columns of photosensors would not overcome the deficiencies noted above with respect to Tanaka and independent claims 1 and 15.

The Office Action relies upon Morris et al. as a basis for modifying the Tanaka/Yamada combination "such that the photosensors in each pixel block have the same color." First, Applicant respectfully submits that it would not have been obvious to modify Tanaka to have pixel blocks of photosensors adjacently disposed in an array direction having the same color because such a modification would be against the teachings of Tanaka to "promote color separation" (see, for example, col. 8, line 65 - col. 9, line 4 of Tanaka). Second, Applicant respectfully submits that Morris et al. does not teach making all of the pixels in one of the groups (groups 113a-133d) a same color. Morris et al. teaches dividing a matrix of photosensors into plural groups, such as the groups 113a-113d shown in Morris et al. Fig. 5 in order to independently control the integration time of each group. In the Fig. 5

embodiment, Morris et al. separates the matrix spatially (that is, into four quadrants). As a different embodiment, Morris et al. discloses that the various photosensors could be grouped (for purposes of determining integration time) based on the colors of the photosensors. Morris et al. does not, however, indicate that all of the photosensors in the spatially-divided quadrants 113a-113d illustrated in Fig. 5 would have the same color. Such a spatial separation by color would not be desirable in producing a useful image because each quadrant would be a block of one color. Furthermore, even if Morris et al. does disclose spatially dividing the matrix into four different quadrants having different colors, it would not have been obvious to modify Tanaka in view of such a teaching because such a modification would defeat the goal of Tanaka to "promote color separation" as discussed above. Thus, Applicant respectfully submits that it would not have been obvious to provide the combinations of features recited in independent claims 1 and 15, as well as their dependent claims, in view of Tanaka, Yamada and Morris et al.

Withdrawal of the rejection is requested.

Claims 12 and 17 are patentable for the additional reason that Morris et al., as well as the other applied references, does not disclose "a first color arranged on every pixel block in one of the even number array and the odd number array of the matrix" and "a second color and a third color arranged alternately on the pixel blocks in the other of the even number array and the odd number array" (emphasis added). Even if each of the blocks 113a-113d in Morris et al. represented a different color (which they do not), this would not correspond to the features of claim 12 and 17. Thus, claims 12 and 17 are patentable for this additional reason.

Claims 13 and 18 stand rejected under 35 U.S.C. §103(a) over the references applied against independent claims 1 and 15, and further in view of Gallagher et al. (U.S. Patent No. 6,765,611). The rejection is respectfully traversed.

Gallagher et al. does not overcome the deficiencies noted above with respect to the references applied against independent claims 1 and 15. Thus, claims 13 and 18 also are patentable.

In view of the foregoing, Applicant respectfully submits that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe anything further would be desirable to place this application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,  
  
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Attachment:  
Petition for Extension of Time

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